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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,740	06/02/2006	David Marks	084706-000000US	3889
20350 7590 03/26/2010 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER BROWN, COURTNEY A	
			ART UNIT 1616	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,740	Applicant(s) MARKS, DAVID	
	Examiner COURTNEY BROWN	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement of Receipt/Status of Claims

This Office Action is in response to the amendment filed December 2, 2009. Claims 1-6 and 9-26 are pending in the application. Claims 7 and 8 have been cancelled. Claims 9 and 12 have been amended. Claims **1-6** and **9-26** are being examined for patentability.

Rejections not reiterated from the previous Office Action are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied to the instant application.

Withdrawn Rejections/Objections

The objection of claim 9 has been **withdrawn**.

The rejection of claim 9 under 35 U.S.C. 112, second paragraph has been **withdrawn**.

The rejection of claim 12 under 35 U.S.C. 112, second paragraph has been **withdrawn**.

Examiner's Response to Applicant's Remarks

Applicant's arguments filed on December 2, 2009, with respect to the objection and 112 second paragraph rejection of claim 9 have been fully considered but are moot in view of Applicant's amendment.

Applicant's arguments filed on December 2, 2009, with respect to the 112 second paragraph rejection of claim 12 have been fully considered but are moot in view of Applicant's amendment.

The rejection of claims 1-6 and 9-26 under 35 U.S.C. 103(a) as being unpatentable over Bessette et al. (US Patent Application 2003/0194454 A1) in view of Tumbers (US 20030203056 A1) **is maintained**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6 and 9-26 remain/are rejected under 35 U.S.C. 103(a) as being unpatentable over Bessette et al. (US Patent Application 2003/0194454 A1 cited in the previous office action) in view of Tumbers (US 20030203056 A1).

Applicant's Invention

Applicant claims a pesticidal composition comprising (i) a mixture of tagetes oil and thyme oil (a.k.a. thymol) in a ration of from 3:1 to 1:3, wherein the total amount of

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such oils does not exceed 5%w/w in the composition; (ii) an agriculturally acceptable carrier oil and (iii) an emulsifier.

***Determination of the scope and the content of the prior art
(MPEP 2141.01)***

Bessette et al. teach novel pesticidal compositions containing rosemary oil and/or **wintergreen oil** that can be used with conventional pesticides, including conventional plant essential oils such as **thyme oil** ([0013]). Bessette et al. teach that the term "wintergreen oil" (Oil of *Gaultheria procumbens*) denotes both extracted (by distillation of the leaves of ***Gaultheria fragrantissima***) and derivatives thereof including synthetic versions comprising **methyl salicylate** (compound which remediate symptoms of viral infection and reduces ethylene production of instant application, ([0029]). The Examiner notes that it is known in the art that the production of ethylene is differentially affected by methyl salicylate, depending on the concentration used (see Ding et al. abstract). Bessette et al. teach that the aforementioned composition may also comprise rosemary oil and/or wintergreen oil in combination with diluents or carriers such as **mineral oil** or other essential oils ([0039])(e.g., **safflower oil, benzyl alcohol, citronellal, d-limonene, soybean oil, sesame oil**, etc.), and **water** ([0068-0069]). Bessete et al. teach the use various optimum ratios between and among the constituents of each proprietary blend of essential oils such as, the mixing ratio of rosemary oil to wintergreen oil is the ratio wherein rosemary oil and wintergreen oil shows a **synergistic effect, and usually is from 100:1 to 1:100 parts by weight, preferably**

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within the range from 13:1 to 1:13 ([0040]). Bessette et al. teach that the aforementioned compositions can be **used with conventional pesticides** ([0041]). In Example 2, paragraph 0085, Bessette et al. teach a formulation wherein 0.5% w/w **lecithin** (emulsifier) is used. In Table 1-9, Bessette et al. teach the application of said pesticidal composition at **2 quarts/acre** (which equals about 2 liters per hectare). Bessette et al. additionally teach a method of treating a **locus** where invertebrate pest control is desired using said pesticidal composition ([0014]).

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Bessette et al. is that Bessette et al. do not expressly teach the use of a pesticidal composition that comprises a mixture of tagetes oil and thyme oil in an amount no more than 5% w/w of the essential oil component. This deficiency in Bessette et al. is cured by the teaching of Tumbers. Tumbers teaches a nematocidal composition comprising a nematocidal agent obtained from the stalk of a plant comprising essential oils that can be obtained from plant species such as ***Tagetes patula Tagetes*** (i.e., tagetes oil) and ***Thymus vulgaris Thyme*** (i.e., thyme oil,[0009]) wherein typical compositions may include a mixture of two or more said nematocidal agents ([0020]) in an amount between about 5 and 30%, preferably about 15 to about 25% plant extract and between about 0.45 vol. % to about 2.5 vol. %, preferably about **1.5 vol. %** of a mixture of plant essential oils ([0021]).

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the two cited references to arrive at a pesticidal composition comprising a pesticidal composition that comprises no more than 5% of a mixture of tagetes oil and thyme oil. In addition to the tagetes/thyme oil mixture, the instant invention further claims the use of a methyl salicylate compound contained in winter green oil. Bessette et al. teach pesticidal compositions comprising a mixture of essential oils comprising rosemary oil, wintergreen oil, and thyme oil and defines "wintergreen oil" to be inclusive of a synthetic version which comprises a methyl salicylate compound. Methyl salicylate is known in the art to remediate symptoms of viral infection. In addition, Tumbers teaches that an essential oil composition comprising a mixture of tagetes and thyme oils kill nematode pests. Thus, one of ordinary skill in art would have been motivated to combine the cited teachings using the composition taught by Bessette et al. and substituting the rosemary oil component with tagetes oil as taught by Tumbers with a reasonable expectation of success of formulating an essential oil composition that is nematicidal and remediates symptoms of viral infection.

Regarding the claimed amounts of emulsifier, Bessette et al teaches the use of 0.5% emulsifier as opposed to 1-20% as instantly claimed. It would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine

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experimentation to determine optimal or workable ranges for the emulsifier component that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. **In re Aller, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).**

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Examiner's Response to Applicant's Remarks

Applicant's arguments filed on December 2, 2009, with respect to the 103 rejection of claims 1-6 and 9-26 over Bessette et al. (US Patent Application 2003/0194454 A1) in view of Tumbers (US 20030203056 A1) have been fully considered but they are not persuasive.

Applicant argues that Bessette et al. do not teach a mixture of tagetes and thyme oils. Applicant states that the pesticidal compositions of Bessette et al. are rosemary and wintergreen oils, with a suggestion of the inclusion of thyme oil as an additional component of the mixture. Applicant points out that the reference makes no mention of

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tagetes oil and that the examiner holds that the teachings of Tumbers makes it obvious to replace the rosemary oil of Bessette et al. with tagetes oil. Applicant argues that Tumbers lists a large number of essential oils and suggests that they may be useful as nematocides and that said oils may be mixed together to extend the range of nematode species that may be treated. Thus, Applicant concludes that there is nothing in Tumbers to motivate the reader to make the substitution suggested by the examiner. However, the Examiner disagrees with Applicant's arguments because, as stated in the instant rejection, Bessette et al. teach pesticidal compositions comprising a mixture of essential oils comprising rosemary oil, wintergreen oil, and thyme oil and defines "wintergreen oil" to be inclusive of a synthetic version which comprises a methyl salicylate compound. Methyl salicylate is known in the art to remediate symptoms of viral infection as disclosed by instant claims 12-14. In addition, Tumbers teaches that an essential oil composition comprising a mixture of tagetes and thyme oils kill nematode pests. Thus, one of ordinary skill in art would have been motivated to combine the cited teachings using the composition taught by Bessette et al. and substituting the rosemary oil component with tagetes oil as taught by Tumbers with a reasonable expectation of success of formulating an essential oil composition that is nematocidal and remediates symptoms of viral infection.

Applicant further argues that while tagetes oil is included in the long list of options provided in this reference, it is not used in any of the examples in the reference.

Applicant argues that the list of oils in this reference is a *needle-in-the haystack type of disclosure* - see *In re Luvisi et al.*, 144 USPQ 646-654 (CCPA, 1974) - and there is

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nothing in the list or the specification of motivate a skilled person to select tagetes oil from the list, much less that the selection would result in a synergistic effect. However, the Examiner disagrees with Applicant's argument because when a reference is considered as prior art, the whole reference is considered and not just the examples. Thus, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

The rejection of claims 1-6 and 9-26 are rejected under 35 U.S.C. 103(a) over Bessette et al. (US Patent Application 2003/0194454 A1) in view of Linsig (CH 688787 A5) **is maintained** .

Applicant's Invention

Applicant claims a pesticidal composition comprising (i) a mixture of tagetes oil and thyme oil (a.k.a. thymol) in a ration of from 3:1 to 1:3, wherein the total amount of such oils does not exceed 10%w/w in the composition; (ii) an agriculturally acceptable carrier oil and (iii) an emulsifier.

***Determination of the scope and the content of the prior art
(MPEP 2141.01)***

The teaching of Bessette et al. is incorporated herein by reference and is therefore applied in the instant rejection as discussed above.

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Bessette et al. is that Bessette et al. do not expressly teach the use of a pesticidal composition that comprises a mixture of tagetes oil and thyme oil in an amount no more than 5 w/w% of the essential oil component. This deficiency in Bessette et al. is cured by the teaching of Linsig. Linsig teaches a composition comprising **3-8 natural essential oils** such as **tagetes and thyme** in an amount of 0.5-99 (**preferably 1-10 wt.%**) with a **synergistic** action in the biological, physiological and/or psychic areas of a living organism such as humans, animals and plants (see abstract and page 2, paragraph 3). Linsig also teaches the use of a carrier and/or solvent selected from natural vegetable oils; balsams; fats, resins or waxes; and alcohols and one or more auxiliaries selected from binders, emulsifiers and carriers, surfactants, antioxidants and additional care components (see abstract). Linsig teaches that the aforementioned

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composition can be used for plant protection and enlarging plant resistance against pests (see page 5, paragraph 4 of machine translation).

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the cited references to arrive at a pesticidal composition a mixture of tagetes oil and thyme oil in an amount no more than 1.5%-10% w/w of the essential oil component. Linsig teaches the use of a mixture of three or more essential oils such as tagetes oil and thyme oil in a synergistic composition in a preferred amount of about 1.5 vol. % ([0021]) in a composition used for plant protection. Bessette et al. teach pesticidal compositions comprising a mixture of essential oils comprising rosemary oil, wintergreen oil, and thyme oil and defines "wintergreen oil" to be inclusive of a synthetic version which comprises a methyl salicylate compound. Methyl salicylate is known in the art to remediate symptoms of viral infection. In addition, Linsig teaches the use of a mixture of three or more essential oils such as tagetes oil and thyme oil in a synergistic composition in a preferred amount of about 1.5 vol. % ([0021]) in a composition used for plant protection. Thus, one of ordinary skill in art would have been motivated to combine the cited teachings using the composition taught by Bessette et al. and substituting the rosemary oil component with tagetes oil

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as taught by Linsig with a reasonable expectation of success of formulating an essential oil composition that is synergistic and remediates symptoms of viral infection.

Regarding the claimed amounts of emulsifier, Bessette et al. teaches the use of 0.5% emulsifier as opposed to 1-20% as instantly claimed. It would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable ranges for the emulsifier component that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. ***In re Aller*, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).**

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Examiner's Response to Applicant's Remarks

Applicant's arguments filed on April 7, 2008, with respect to the 103 rejection of claims 1-6 and 9-26 over Bessette et al. (US Patent Application 2003/0194454 A1) in view of Linsig (CH 688787 A5) have been fully considered but they are not persuasive.

Applicant argues that it would not be obvious to substitute any of the oils of the Bessette et al. disclosure for the mixtures of Linsig et al. because Linsig et al. is a broad disclosure that essential oils can work together in a wide variety of biological systems in a biological, physiological, and/or psychic way. Applicant argues that the examples, none of which employ either tagetes or thyme oils but rather a complex mixture of other essential oils, illustrate the use of these mixtures in a calming therapy for dogs (Examples 1 and 2), a shampoo that removes (but not necessarily kills) parasites such as fleas (Example 2), a plant growth enhancer and mite repellent (example 4), and a mosquito repellent for use on the skin (Example 5). However, the Examiner disagrees with Applicant's arguments because Applicant is arguing intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

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Applicant further argues that there is no teaching in Linsig et al. to suggest that the compositions have any insecticidal effect at all and concludes that even if there were, the only suggestion would be to try the particular combinations used in the examples. Thus, Applicant concludes that the disclosure in Linsig et al. lacks any motivation to replace the rosemary or wintergreen oil of Bessette et al. with thyme and tagetes oil, as one would have to do to arrive at the present invention. Further, Applicant argues that the synergistic effects that Applicant has discovered make the combination even more nonobvious. However, the Examiner disagrees with Applicant's arguments because Linsig teaches the use of a mixture of three or more essential oils such as tagetes oil and thyme oil in a synergistic composition in a preferred amount of about 1.5 vol. % ([0021]) in a composition used for plant protection. Bessette et al. teach pesticidal compositions comprising a mixture of essential oils comprising rosemary oil, wintergreen oil, and thyme oil and defines "wintergreen oil" to be inclusive of a synthetic version which comprises a methyl salicylate compound. Methyl salicylate is known in the art to remediate symptoms of viral infection. In addition, Linsig teaches the use of a mixture of three or more essential oils such as tagetes oil and thyme oil in a synergistic composition in a preferred amount of about 1.5 vol. % ([0021]) in a composition used for plant protection. Thus, one of ordinary skill in art would have been motivated to combine the cited teachings using the composition taught by Bessette et al. and substituting the rosemary oil component with tagetes oil as taught by Linsig with a reasonable expectation of success of formulating an essential oil composition that is synergistic and remediates symptoms of viral infection. Thus,

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the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

With regard to the existence of a synergistic effect, Applicant states:

"Table 12 shows that the concentrations of the mixtures of tagetes and thyme oils (the rows beginning with the notation "C/D" in the left column) required to give 50% mite kill at the 3:1 and 1:3 ratios are 278.3mL/hL (row 8) and 334.2mL/hL (row 9), respectively. Each of these concentrations is significantly less than the concentrations required for 50% kill using either of the components alone, namely 452.6mL/hL (row 4) and 541.1mL/hL (row 6), respectively. These differences in 50% kill concentrations are clear indications of synergistic activity at each of these ratios. The result at the 1:1 ratio (row 7), which admittedly does not show synergism, is an anomaly; the trend is shown at the other two ratios, which do demonstrate synergism. Further proof is presented in the whitefly data shown in Table 13, where at the ratio of 1:1, the amount of tagetes/thyme oil mixture required for 50% kill was 28.8mL/hL (row 6), thyme oil alone required a concentration of 37.6mL/hL (row 5) and tagetes oil required a concentration of 407.6mL/hL (row 3). The addition of tagetes oil thus produced a reduction of 23% in the 50% kill concentration for thyme oil, an unexpected degree of reduction since the massive 407.6mL/hL concentration for tagetes oil indicates that it was not very active at all. This is particularly strong proof of synergism."

The Examiner agrees that data presented in the instant specification demonstrates synergism when 1:1 and 3:1 Tagetes is used to Thymus. Thymus oil by itself has a LC 50 of 37.6 and Tagetes has an LC 50 of 407.6. At a ratio of 1:1 of Tagetes to Thymus has a LC 50 of 28.8 and at a ratio of 3:1 Tagetes to Thymus has a LC 50 of 26.6 which are both unexpected. In other words, it would not have been obvious to one of ordinary skill in the art that dilution of Thymus with Tagetes would result in an improved LC50 value. One would expect the opposite. Indeed, there is no synergy for the ratio of 1:3 as instantly claimed because the LC 50 is 169.5 which is expected. **Therefore the claims are not commensurate in scope with the synergistic ratio.** This rejection is based on the well established proposition of patent law that no invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients, *In re*

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Sussman, 1943 C.D. 518. Applicant's invention is predicated on an unexpected result, which typically involves synergism, an unpredictable phenomenon, highly dependent upon specific proportions and/or amounts of particular ingredients. Any mixture of the components embraced by the claims which does not exhibit an unexpected result (e.g., synergism) is therefore *ipso facto* unpatentable.

Since the ratio of 1:3 would be expected as explained above, then the instant invention as claimed is unpatentable.

Conclusion

The claims remain rejected.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney A. Brown whose telephone number is 571-270-3284. The examiner can normally be reached on 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Courtney A. Brown
Patent Examiner
Technology Center 1600
Group Art Unit 1616

/Ernst V Arnold/
Primary Examiner, Art Unit 1616